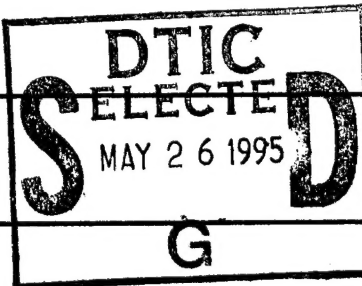


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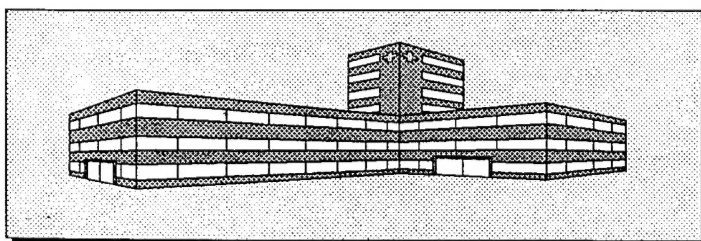
U.S. ARMY COMMAND AND GENERAL STAFF COLLEGE  
FORT LEAVENWORTH, KANSAS

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THESES AND SPECIAL STUDIES

ANNUAL EDITION  
1987-1988

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1987-1988  
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THE DEGREE  
MASTER OF MILITARY ART AND SCIENCE

On 5 August 1974 legislation was enacted authorizing the U.S. Army Command and General Staff College (CGSC) to award the degree, Master of Military Art and Science (MMAS), an authority originally requested in 1964. The legislation prescribes that the MMAS program require a thesis; also, that the College must attain affiliate or member status with the North Central Association of Colleges and Schools prior to the award of any degree. Included in the statute was authority for retroactive awards to the 182 officers who had successfully completed the MMAS requirements in previous years. On 31 March 1976 the College was granted full accreditation as a masters' degree-granting institution by the North Central Association of Colleges and Schools.

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FOR THE COMMANDANT:

*Philip J. Brookes*

PHILIP J. BROOKES  
Director  
Graduate Degree Program

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This edition brings together all abstracts of Master of Military Art and Science (MMAS) theses completed at the U.S. Army Command and General Staff College (CGSC) from 1987-1988. The subject section is designed to fit the areas of research emphasized by the MMAS student. Because of the primary military thrust of the subject matter, headings such as "U.S. Army," "War," or "Combat" have been omitted in favor of more precise captions.

Some titles have been listed in several places in the subject section, as appropriate. The numbers following the subject heading correspond to the titles in the list of theses, by year of completion. Abstracts and the number of pages in the theses are found in the body of the volume.

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An author list is in the back of the volume.

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664. The Consideration of the Human Elements in the Command Estimate, by Lieutenant Colonel Agus Widjojo, Indonesian National Army, 127 pages.

This study proposes to determine whether a systematic method of evaluating human elements in combat should be incorporated in the command estimate. The research hypothesis of the study is that the exclusion of the human elements in the command estimate is inconsistent with the concept of combat power; hence the command estimate should incorporate a systematic method of evaluating human elements in combat to conform to that doctrine. The research is conducted with an emphasis on the subject relevant approach, which is the interaction between the human elements and the combat environment. It does not attempt to quantify those human elements but tries to find a conceptual model consisting of a force in an upcoming battle. It uses current theories and studies on how soldiers react to the combat environment, the identification of the influencing factors on combat outcomes and historical data of the overriding influence of the human intangible variables over physical tangible variables on combat outcomes.

The study concludes that although there is already an awareness of the human elements in the command estimate, a disconnect in doctrine exists by not providing sufficient attention to consider the human elements in the analysis of relative combat power of the situation estimate. It argues that there is an interaction between human elements and the combat environment, and that those human elements seem to have overriding influence on combat outcomes. The study identifies leadership, training, experience, cohesion, manpower quality and national characteristics as the six major groups of human elements to be considered as indicators to evaluate the influence of human elements on a unit's performance in an upcoming battle. Finally, the study builds a conceptual framework as a guide to identify those factors, to be used in the analysis of relative combat power of the situation estimate.

665. USAF Lead-In Fighter Training: A Study on the Desirability and Feasibility of Using Civilian Pilots, by Major Robert M. Awtrey, USAF, 91 pages.

This study examines the current USAF Lead-in Fighter Training (LIFT) Program at Holloman AFB, NM to assess the benefits of using civilians as LIFT instructor pilots. Primary aspects considered in this examination are: combat readiness, costs of training, quality of training, and manpower utilization.

A historical overview gives the reader a background on the training of USAF pilots and where, when, and how civilians have been used previously. The historical perspectives leads to a detailed analysis of cost considerations and the applicability of the USAF Commercial Activities Program. Finally, the management of the USAF's pilot force is examined in detail to determine how the conversion of the LIFT instructor positions to contract would affect military pilot management.

The study concludes that it would be beneficial for the Air Force to use civilian pilots as LIFT instructors. Private industry has the ability to provide experienced pilots with the necessary background to act as LIFT instructors. Also, significant monetary savings would be achieved and the Air Force's requirements for pilots could be reduced or shifted to combat positions.

666. The Three-Ship Tactical Formation-A Combat Multiplier for the USAF, by Major Steven E. Barach, USAF, 86 pages.

This study is a evaluation of the formation flown by units of the tactical elements of the USAF. The theory that the three-ship formation would provide the USAF a more cogent force is discussed in detail. The evolution of tactical formations and the reasons they were adopted is reviewed and compared with current fighter formations in use today.

Among the many conclusions which may be drawn from this investigation are: the three-ship tactical formation does have the capability to increase the combat presence of today's tactical air forces; the basic two and four-ship building blocks should not be abandoned in order to accommodate the rise of the three-ship; a change in formation has meant the difference between success and failure in past air battles.

The study concludes that three-ship tactical formations will be needed in combat and should be included as an integral part of USAF continuation training along with the other tactical formations already in use.

667. Watershed at Leavenworth: Dwight D. Eisenhower and The Command and General Staff School, by Major Mark C. Bender, USA, 113 pages.

This study is a historical analysis of Dwight D. Eisenhower's experience as a student at the 1925-26 Command and General Staff School at Fort Leavenworth, Kansas. The study develops several themes of Eisenhower's life - competitiveness, individualism, use of others' talents, and problem solving ability - and shows how they came into play during the year at Leavenworth. The study explores Eisenhower's preparation for the course, the extreme lengths which were required to gain him entrance, his motivation for excellence, his methods of study, his selection as honor graduate, and how the course prepared him for his future. The study explores the 100 years of development of the School prior to Eisenhower's attendance, with emphasis on the course and "the Leavenworth experience" as it existed for the school-year 1925-26.

The study investigates Eisenhower's relationship with his mentor General Fox Conner, the degree of competitiveness existing at the School in 1925-26, School doctrine and curriculum, and the living environment at Fort Leavenworth. The work explores Eisenhower's "partnership" study method with classmate Leonard Gerow, his use of George S. Patton's notes during the course, and the influence of School Commandant Edward L. King on the class.

Eisenhower's prior duty and assignments and extensive preparation were pivotal in his success, as was his high motivation to do well in the course. Despite supposedly anonymous class standings during the course, Eisenhower likely knew of his standing because of his close associations with instructors who were running a 'pool' on who would finish first. This knowledge may have spurred Eisenhower's especially strong finish - although it did not interfere with his practicing the game he discovered at Leavenworth - golf. The study corrects several factual errors perpetuated by biographers, while seeking to discern the reasons Ike would one day refer to his year at Leavenworth as "a watershed in my life."

668. Clausewitz and German Idealism: The Influence of G.W.F. Hegel on On War, by Lieutenant Colonel L.W. Bentley, Candian Armed Forces, 125 pages.

This study analyses the influence of the German Idealist philosopher G.W.F. Hegel (1779-1831) on the method and thought of the Prussian military theorist Carl von Clausewitz (1780-1831). The study contends that a complete understanding of the nature of Clausewitz's theory and its implications for the future requires an awareness of its source in German Romantic Idealism. Specifically, the study argues that G.W.F. Hegel had a direct influence on the nature of Clausewitz's thought as manifested in On War.

The study proceeds by comparing both the dialectical method of analysis employed by Clausewitz and the substance of his thought concerning the state and war with those of Hegel. The primary analysis is conducted by a comparison of Hegel's thought in his Philosophy of Right (1821) with that of Clausewitz as revealed in On War (1832).

The study concludes that there is compelling evidence that Clausewitz was specifically influenced by C.W.F. Hegel. This relationship enhances our understanding of Clausewitz's theory of war. Furthermore, Clausewitz's popularity in Soviet military thought is at least partially due to its Hegelian context. Finally, the position of Clausewitz in Western liberal/democratic thinking about war is problematical when viewed from an Hegelian perspective. In both cases the existence of nuclear weapons suggest that Clausewitz' paradigm is not adequate for the future.

669. The Follow-on Close Air Support Aircraft - Should it be a Single Role or Multi-Role Aircraft?, by Major Kelley B. Bishop, USAF, 112 pages.

The thesis investigates the selection of a follow-on aircraft for the close air support (CAS) role. It reviews tactical air history since the start of WWII. The thesis pays special attention to fighter-bomber and attack aircraft related to the CAS role. It deals with aircraft procurement decisions in WWII and in the intervening years. The choice of a new aircraft to replace the A-10 is currently under evaluation in the DOD.

This thesis concludes that the follow-on CAS aircraft should be a multi-role aircraft. Further, the USAF should limit the missions for that aircraft and its pilots to Army support, either CAS or BAI. The changing emphasis on night flying requirements necessitates a more focused USAF training program to deal with the planned employment and rigors of AirLand Battle.

Recommendations include resolving doctrinal definitions of CAS and BAI, studying USAF training for night ground attack, and evaluating the combining of the CAS and BAI mission areas.

670. Rotary Wing Air-to-Air Combat: An Analysis of U.S. Capability, by Richard B. Bowman, USA, 96 pages.

The study identifies the problem that Army aviation does not have a viable air-to-air capability. The idea that U.S. Army helicopters could possibly be forced to engage in air-to-air combat dates back to 1971. Yet in the ensuing seventeen years, very little has been accomplished. Air-to-air combat is examined in three areas: doctrine, helicopters and their armament, and training.

The study examines the air-to-air philosophy and organization of the U.S. Marine Corps, U.S. Air Force, and the Soviet Union as possible solutions to improve the Army's air-to-air combat capability. Three alternatives are compared. The first alternative is to continue with U.S. Army doctrine as currently written. The second is to make air-to-air combat a contingency mission. Third, the Army fields specific units whose sole mission is air-to-air combat.

Conclusions of the study recommend alternative two, making air-to-air combat a contingency mission. The author states that this option will necessitate an equipment upgrade in the area of helicopter armament. In addition, the author has suggested methods for improving the air-to-air combat capability of this alternative.

671. Are the Combat Service Support Units of the United States Army Training to Combat the Level I and II Threat?, by Major Anthony A. Bullard, USA, 88 pages.

This study is an analysis of the training being conducted in combat service support (CSS) units to prepare soldiers for the level I and II threat in NATO. AirLand Battle doctrine, the literature which attempts to illuminate and execute that doctrine, and the Soviet capability to operate in NATO's rear area is examined to determine CSS training requirements. The adequacy of Army training guidance is also determined. A questionnaire given to the CSS officers of the Command and General Staff Officer's Course of 1987-88 is analyzed to determine what type of tactical training is taking place in CSS units.

Among the many conclusions which could be drawn from this study are: AirLand Battle doctrine properly portrays the rear area threat and the challenges CSS units must face to accomplish their missions; the literature that attempts to execute that doctrine is flawed, failing to follow the AirLand Battle tenets of initiative and agility, and recognizing the capabilities and objectives of the level I and II threat; that military police units are not training with CSS units in rear operations; there is a pervasive belief that tactical training of CSS soldiers is a waste of training time.

The study concludes that combat service support units are not training to the standards established by Army regulations. CSS units would be unable to conduct their wartime support mission in NATO due to their inability to operate and survive in a tactical environment.

672. River Crossing Operations and AirLand Battle - A Critique of Doctrine and Capabilities: A Comparison of Hasty and Deliberate River Crossing Doctrine and Capabilities with AirLand Battle Doctrine, by Major Gregory E. Bush, USA, 236 pages.

This study identifies the critical components of AirLand Battle doctrine to determine the river crossing requirements of the combined arms team. It examines these critical components--the tenets, the imperatives, and the characteristics of the environment--and develops an analytical framework from which functional river crossing doctrine and the capabilities to support that doctrine can be compared.

This study provides a comparative analysis of functional river crossing doctrine and capabilities based on the requirements of AirLand Battle doctrine. First, it describes both hasty and deliberate river crossing doctrine from Field Circular 90-13, Counterobstacle and River Crossing Operations. Second, it describes current and future capabilities, concentrating on current and future engineer equipment systems, bridging organizations, and the proposed engineer force structure redesign known as E-Force. Third, the study identifies other combat support and combat service support activities that may have shortfalls in their functional capability to support river crossing operations.

The study concludes that hasty river crossing doctrine does support AirLand Battle doctrine. More importantly, it concludes that deliberate river crossing doctrine does not support AirLand Battle doctrine. The study finds that serious capability shortfalls exist among the combined arms team and concludes that any future revision of functional river crossing doctrine must be a coordinated combined arms effort.

673. U.S. Army Petroleum Supply Capability is Insufficient to Meet the Demands of Army Aviation on the Modern Battlefield, by Major Walton C. Carroll, USA, 167 pages.

This study is a comprehensive analysis of the U.S. Army sustainment systems capability to support extended aviation bulk fuel requirements while simultaneously meeting ground fuel demands on the modern battlefield. It examines the capabilities of the combat service support organization, at Corps



level and below, to provide effective Class III jet petroleum (JP) supply to the division aviation brigade during its conduct of airland battle. The thesis evaluates storage, transportation and distribution capabilities for bulk fuels within supporting organizations and matches these capabilities against the projected demands of a Mechanized Infantry Division equipped with: MI tanks, Bradley Fighting Vehicles, Apache and Blackhawk Helicopters. A European scenario is the basis for projecting supply requirements of the model division. The study concludes that our bulk fuel sustainment system has not expanded sufficiently to meet the increased supply demands of Airland Battle doctrine. The distribution system for bulk fuels is identified as the weakest link in the sustainment chain. Outdated organization, aged equipment, insufficient manning and limited training opportunities are cited as major problem areas precluding effective and timely support.

674. Red Flag - Is the Realism Worth the Cost?, by Major James A. Colley II, USAF, 83 pages.

This study answers the following question: Has the TAC Red Flag training program effectively simulated the realities of battle and, at the same time, been cost effective in terms of the loss of lives and aircraft? This study presents the historical background reasons why TAC established Red Flag. It also examines TAC training concepts evolution of which Red Flag's birth was a part. Also included is a description of the Red Flag organization, facilities and equipment, training preparation, and unit participation to acquaint the reader with its operational aspects.

This thesis analyses the effectiveness of Red Flag by first discussing how well the program achieved its mission and goals. Next, a discussion of the Red Flag safety mishap records in terms of the loss of lives and aircraft compares the Red Flag mishap rate to the standard which is the TAC and Air Force mishap rate. Finally, it compares the actual combat experienced veterans to the increase in Red Flag experienced aircrews in the TAF.

The study found that, in the early years, the cost in loss of lives and aircraft was much higher than either the Air Force or TAC in terms of mishap rate per 100,000 flying hours. However, with experience, effective safety mishap programs and investigations, leadership, and emphasis on sound tactics the Red Flag mishap rate declined to the point that it was close to the TAC rate and sometimes fell below it. This was significant because the level of intensity and realism was much more than the typical daily TAC mission. In conclusion, Red Flag effectively simulated the realities of battle and has been cost effective by meeting the mishap standards in terms of loss of lives and aircraft.

675. Duty: Understanding the Most Sublime Military Value. A Search for an Understanding of What the Army Means by Duty and a Look at How the Officer Learns About Duty in the Army Schoolhouse, by Major Martin E. Dempsey, USA, 108 pages.

After an extensive search of literature by and about the military profession and professional military officers, this study concludes that the concept of Duty includes five imperatives: defense of the United States, support of the government in the performance of its constitutional duties, dedication to the military profession, selflessness, and courage. As the officer applies these five imperatives in his professional life a balance between the competing demands of self and selflessness.

This study finds the definition of Duty in FM 100-1 inadequate and proposes a definition of Duty based on the five imperatives derived from the survey of literature. It contends that the distinction between individual and institutional values in the Army Ethic dilutes the power of a time-honored word like Duty. It also finds that the essential idea of balance is missing

from military ethics instruction and that Duty is not addressed as a separate value within the Army schoolhouse. The study recommends a reconsideration of both the ethics curriculum in the Army schoolhouse and the Army Ethic described in FM100-1 to better account for the importance of Duty in the profession of arms.

676. Air Defense Priorities in Support of AirLand Battle, by Major David K. Eacus, USA, 86 pages.

This study is an examination of the procedures and techniques used by corps and division headquarters to develop air defense priorities in support of AirLand Battle. The study begins with an examination of the role of the air defender in contributing to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield. The study explores the doctrine for developing air defense priorities and links the successful application of this doctrine to the air defender ability to contribute to success on the battlefield.

Collection of data from active Army corps and division level units revealed that the process for developing air defense priorities was not well understood. The procedures and techniques used are not standardized. Responsibilities for executing the required tasks have not been identified nor fixed to specific individuals in many headquarters. In many cases, the personnel involved in the process did not have either the required expertise or timely access to the information needed to accomplish their tasks.

The study concludes that the current procedures and techniques for developing air defense priorities do not allow air defense forces to fully contribute to the overall initiative, agility, depth, and synchronization of friendly forces on the battlefield.

The study makes three recommendations for corrected the identified shortfalls. First, the task of developing air defense priorities should be added to future rewrites of FM 101-5. Second, the explanation of the process of developing air defense priorities needs to be expanded in doctrinal manuals written for Brigade, Division, and Corps level. Finally, the process for developing air defense priorities needs to be incorporated into the instruction of Army schools such as the Combined Arms and Services Staff School, the Command and General Staff College, and the Army War College.

677. Lessons from Israeli Battlefield Air Interdiction During the Battle for Golan, October 1973, by Major Thomas D. Entwistle, USA, 80 pages

This study establishes lessons, and draws conclusions from Israeli Air Force air-to-surface operations during the battle for Golan in October, 1973. The Israeli air mission and principal operational factors are identified and described. A historical analysis then considers how the principal factors influenced Israeli fighter operations, and determines what results were achieved.

The study shows that Israeli air-to-surface operations during the battle were equivalent to current US Air Force doctrine for Battlefield Air Interdiction. Enemy ground forces and their objectives, Israeli assets, threats to fighter operations, and environmental conditions are described and analyzed to establish how they influenced operations. The results of operations are then measured against the doctrinal goals of Battlefield Air Interdiction to determine Israeli success.

The study concludes that Israeli air operations effectively contributed to the defeat of enemy ground forces, but the delayed nature of the effects produced important risks to the outcome of the battle. Further, the principal

factors had a significant and mixed influence on the results of air operations.

678. A Strategic Analysis of U.S. Special Operations Conducted During the Korean Conflict, 1950-1953, by Major Steve A. Fondacaro, USA, 143 pages.

This study analyzes the strategic effectiveness of special operations conducted by the Far East Command (FECOM) and the Central Intelligence Agency (CIA) in Korea during the Korean Conflict from 1950-1953. Each organization's effectiveness is determined by examining the areas of strategy, organization and operations. Special operations as defined in Joint Chiefs of Staff Publication Number 2, Unified Action Armed Forces (UNAAF) was the standard by which operations were selected for examination. The study answers four questions: 1) What were the U.N. Command strategic objectives within the Korean theater, and how did these change?, 2) How these changing strategic objectives development and coordination of special operations objectives, forces and headquarters?, 3) What did U.S. special operations in Korea accomplish strategically? 4) What conclusions can be drawn from U.S. special operations forces' effectiveness or ineffectiveness in Korea?

FECOM special operations were limited to partisan operations and psychological operations. The partisans consisted of anti-communist North Koreans organized and led by U.S. cadre beginning in January, 1951. Psychological operations were conducted continuously from July, 1950 by a separate staff element whose capabilities expanded dramatically during the course of the conflict. CIA operations within Korea consisted of intelligence gathering and special (or covert) activities controlled from headquarters in Japan. CIA operations remained autonomous of FECOM control throughout the conflict. The control issue was the source of bureaucratic conflict that inhibited operational coordination between FECOM and CIA throughout the conflict.

The study concludes that lack of strategic objectives and limited capability rendered FECOM operations in Korea strategically insignificant. CIA operations were well planned and successfully achieved well-defined strategic objectives in support of the war effort in Korea. This experience highlights existing operational coordination problems between military and CIA special operations. Additionally, the use of indigenous forces in Korea foreshadow problems that resurface on larger scale in Viet-Nam, and may apply to current operations in Central America.

679. Mountain Infantry - Is There a Need? A Historical and Present Day Analysis on the Necessity of Mountain Infantry Units in the Force Structure of the United States Army, by Major Jon D. Greer, USA, 117 pages.

This study uses the past as a basis for establishing the need for mountain infantry units by comparing the combat operations of the 88th Infantry Division and the 10th Mountain Division during World War II on the Italian peninsula. An analysis of current world wide mountainous deployment areas reinforces the need for a credible mountain unit in the 1990s. The organization, mission, and training philosophy of the French, Italian and German mountain infantry units is discussed which leads into a comparison of the German mountain unit with the United States light infantry battalion and the United States Army National Guard 3rd Battalion, 172nd Infantry, (Mountain).

The light infantry battalion and the 3-172d Infantry (Mountain) are the only units tasked in the United States Army force structure to fight a conventional war in the mountains. Both unit's mission, organization, capabilities, limitations and training are contrasted thus showing the United States Army's current capability to fight in the mountains.

The study conclusively demonstrates that the United States Army must organize and train a mountain infantry force which can meet the challenges of mountain operations and counter the possible threat in the numerous mountainous regions throughout the world.

680. Light Fighter Communication - On Today's Chemical Battlefield: An Analysis of How Effective Communication within the "Light Fighter" force is on Today's Chemical Battlefield, by Major Thomas J. Hale, 198 pages.

The thesis problem is, "How well does communication within the "Light Fighter" force function on today's chemical battlefield." Chapter 2 reviews the history of chemical warfare and the evolution of the Chemical Warfare Service (CWS). This study presents the significance of the thesis problem. Second, the Soviet offensive use of chemicals is presented. Third, documented uses of chemicals in today's Third World Countries are presented. Fourth, a baseline communication model is established as a basis for communication model is established as a basis for communication analysis. Fifth, a fictional scenario is presented to illustrate the communications problems that the light fighter would encounter under combat conditions in a tropical climate. The data for the conclusions are from governmental and field studies conducted since 1969.

The lessons learned from this study are:

1. Communications suffer significantly in the chemical environment because of these factors: (a) exhaustion of leaders, (b) leadership behavioral changes and (c) the increased periods when no one is in charge.
2. Face-to-face communication is only one half as effective in the chemical environment as in a no threat environment and 38% of all radio messages must be repeated while in MOPP4.
3. Battalion TOC efficiency suffers significantly in a chemical environment in the areas of: (a) written work and radio/telephone communications are subject to 40% more errors, (b) organic M51 Shelters cannot house a functional staff, and (c) more reliance is placed on gathering intelligence instead of planning for mission execution.
4. Opposed amphibious assaults by soldiers in a tropical environment wearing MOPP4, are judged medically impossible.
5. Training is the single most important factor in preparing to fight and win on a chemical battlefield.

A "Light Fighter" can communicate in a chemical environment. How effective the communication is depends on the amount of unit and individual chemical training and the physical conditioning of the unit.

681. World War III and the Short-War Assumption, by Major Robert W. Hambridge, USA, 139 pages.

History text frequently assert that the Great Powers of 1914 assumed that their next great war would be a short one, lasting a few months at the longest. Authors do not, however, explain, in detail the reasons why those countries believed in a short war.

This study, attempting to fill that gap, examines the reasons why the European powers that fought on the Western Front during World War I believed, in the years before the war, that their next great war would be short.

This study highlights seven reasons for the short-war assumption of 1914. First, the old axiom that generals inevitably plan to fight the "last" war was true in 1914. This is significant because the "last" wars were the Franco-Prussian and Russo-Japanese wars, which both happened to end after one or two major battles. Second, there existed in all European armies before the war the so-called "cult of the offensive." Generals believed that vigorous offensive action would carry the war into the enemy's homeland and force a decision early, resulting in a quick victory. Third, the years before the war were part of a great age of industrial innovation and technological improvement. Most strategists believed that improved technologies such as better machine guns, artillery, and airplanes would enhance the power of offensive operations, keeping wars short. Fourth, responsible leaders considered long wars to be economically impossible. Large armies were expensive to maintain, and they expected that mass conscription would cripple industry, agriculture, and public services, leading to economic collapse. Fifth, wargames and map maneuvers, used by nations to test their war plans assured them that their battle plans were sound and would lead to a short war. Sixth, some war fiction of the era had short-war scenarios and may have contributed to the public belief in a short war. Finally, people believed that the next war would be short because they wanted it to be short. Most people accept the necessity of national defense, but demand that necessary, just wars be kept short.

This study is significant because there are several fascinating parallels between the short-war assumption of 1914 and the "come-as-you-are" short-war assumption of the 1980s. These similarities ought to be recognized and understood by Army leadership today.

682. The Requirement for Wild Weasel Defense Suppression Assets in Reducing Aircraft Attrition, by Major Robert Henry Haseloff, USAF.

The combat effectiveness of tactical airpower can be assured during a conflict only if attrition is maintained at minimum levels. In today's high threat environment, the Warsaw Pact nations outnumber the NATO allies in front line aircraft by a factor of 2.4 to 1 and have over 1,800 surface-to-air missile launchers and 1,500 search radar systems. Therefore, we must have an effective and efficient defense suppression capability to effectively accomplish the counterair mission. Effective suppression of enemy radar systems is directly associated with attrition rates of fighter aircraft operating in the vicinity of the forward edge of the battle area (FEBA). The focus of this thesis is to determine if Wild Weasel assets are required during a conflict and ascertain when they become cost effective in reducing attrition of strike aircraft.

This study examines three aspects of the suppression of enemy air defense (SEAD) mission. First is the history of electronic combat. This thesis covers the history of aerial electronic combat beginning with the introduction of radar controlled antiaircraft gun and missile systems after World War II. Other areas discussed include the development of the first Wild Weasel aircraft during the Vietnam conflict and the lessons learned from the 1973 Arab-Israeli War. Recent hostilities include the Falklands conflict, the Bekaa Valley debacle, and the 1986 raid on Libya by U.S. forces.

The second aspect covers the Soviet radar threat. Presentation of the Soviet threat discusses doctrine, employment of the Soviet air defense system, the capabilities and weaknesses of each Soviet radar system, and concludes with an insight to future Soviet weapons systems.

The final portion of the thesis provides an analysis of fighter attrition and a cost effectiveness analysis to determine when the Wild Weasel force reaches a cost effective break even point. Concluding remarks discuss

the validity of using Wild Weasel assets as a cost effective and viable method of lethal defense suppression in reducing aircraft attrition.

683. The Role of the Marine Amphibious Unit (Special Operations Capable) in Low Intensity Conflict, by Major Richard A. Hobbs, Jr., USMC, 118 pages.

This study compares the capabilities of the enhanced Marine Amphibious Unit (Special Operations Capable), MAU (SOC) with the requirements for conducting operations in Low Intensity Conflict (LIC). The focus of the study is on the improvements and expansion of capabilities of MAUs being Special Operations Capable. LIC is defined and discussed relative to the requirements for military forces operating in this environment. The capabilities of the MAU (SOC) are then compared to the requirements of LIC to establish a framework for the role of MAU (SOC) in LIC operations.

The principal conclusion of the thesis is that the MAU (SOC) has a role in LIC operations. Its capabilities are best served in the area of peacetime contingency operations, where its rapid response and special operations enhancements provide a unique capability for military action. The MAU (SOC) has limited capability in foreign internal defense operations, due to the eventual length of such operations. Finally, the MAU (SOC) is a viable force for use in terrorism counteraction and peacekeeping operations, but again, other units may be better suited based on the circumstances of the situation.

684. Criminal Investigative Activities, World War II and Viet Nam, Battlefield Implications, by Major Daniel G. Karis, USA, 145 pages.

This study analyzes criminal investigative activities during World War II and the Viet Nam conflict to determine if there were similar patterns in the framework of command and control, organizational development, support, and investigative operations which have contemporary implications. The analysis uses historical records and archival material from both conflicts.

The findings reveal that in both conflicts the issue of command and control concerned whether or not it would be centralized or decentralized in the theater of operations. The centralization issue also influenced the organizational development of CID in the theater of operations. Patterns emerge in regard to the lack of organic support capabilities in administration, maintenance and laboratory support in both conflicts. In investigative operations CID maintained responsibility to investigate crimes in general, but blackmarketing crimes were a significant challenge in both conflicts.

The study concludes that there were similarities in CID activities in these wars. The fact that these similarities existed suggests that they will surface again in any future conflicts that CID is engaged in and thus have contemporary implications.

685. Strengths and Weaknesses of the Afghanistan Resistance Movement: A Study of the Capabilities of the Afghan Resistance Problem, Created by Soviet Invasion of 1979, by Major Ashfaq Parvez Kayani, Pakistan Army, 90 pages.

This study discusses the dimensions of the Afghanistan problems and various aspects of the Afghanistan Resistance Movement. By comparing the present performance and potential of the Afghanistan Resistance Movement to the dimensions of the problem, the study seeks to establish strengths and weaknesses of the Afghanistan Resistance Movement.

The study concludes that the lack of proper attitude towards nationalism and the failure to develop a unified leadership are the two major weaknesses of the Afghanistan Resistance Movement. Also, the eccentric and individualistic character of the Movement and its inability to accept a



compromise solution do not serve its long term interests and contribute to its weakness. High morale, popular support and the demonstrated military potential are the strengths of the Afghanistan Resistance Movement. Inability of the Afghanistan regime to survive the withdrawal of the Soviet troops contributes indirectly to the strength of the Afghanistan Resistance Movement and, to some extent, compensates for its weaknesses.

686. The Effect of the Concept Based Requirement System on the Corps Support Command's Ability to Sustain AirLand Battle, by Major Albert P. Lawson, USA, 115 pages.

This study investigates the development of Corps 86 structure and AirLand Battle doctrine from the sustainment perspective at Corps level. This study uses CBRS, the TRADOC process to change the Army, as the mechanism to track sustainment evolution. This study includes the development of CBRS, AirLand Battle doctrine and Corps 86 force structure. The study also reviews the evolution of the COSCOM.

The study concludes that CBRS did not make Corps level sustainment an adequate priority in the development of Corps 86 structure or AirLand Battle doctrine. The study demonstrates that because CBRS was evolving concurrently with Corps 86 and AirLand Battle, the impact of CBRS on these two concepts was significantly reduced.

The study also concludes that institutional bias and proponent interests further reduced the role of sustainment in CBRS while concurrently constraining the effectiveness of CBRS as a process. CBRS did not provide the balanced development of the Army needed to ensure sustainment of a Corps during AirLand Battle.

687. The Integration of Small and Large Forces in Combined Operations, by Major Neil C. Lewis, USA, 178 pages. *JAN 86*

This study is done against the background of a new recognition in the Commonwealth Caribbean of the defense needs of the region. It will examine the historical background of the regions threat, problems of regional interoperability and problems of operability with potential large nation allies. The 1983 rescue of Grenada will be examined, as will the Regions current defense posture. A hypothetical threat situation will also be developed based on the border dispute between Guatemala and Belize. Solutions will then be proposed based on the analysis.

Because of the small demographic base and generally weak economies a totally autonomous defense structure is out of the question. This leaves the ruling elites of the region with the inevitability of alliances with larger forces. Balancing alliances and developing forces that are capable of operating with a range of potential allies in a variable political climate requires either full political integration or a structure that gives the ruling elites sufficient flexibility to exercise some political independence without degrading military efficiency.

The study concludes that a structure headed by a regional Prime Ministers panel would supervise and direct a regional defense system through a permanent civilian secretariat and a military general staff. The smaller states would raise and maintain permanent forces. Coastguard and some Air assets would be permanent forces. The entire system would be run from a permanent headquarters which would do day to day operations, force development and integration, training and mobilization. Particular emphasis would be placed on combat post training in association with potential extra-regional allies and the integration of military development with economic development. Also responsiveness to the mobilization requirement is important as is strategic intelligence to help optimize the force development effort.

Finally, the proposal is so designed that the recommendations respond to the perceived political will of the component nations.

688. The Conduct of Quality Basic Combat Individual Training, by Major Barry S. Lineback, USA, 80 pages.

The purpose of this thesis is to determine how basic combat training should be conducted to ensure that quality training is achieved.

This thesis follows a descriptive methodology as it examines pertinent training literature in efforts to define training, determine the characteristics of training, and define the nature of quality training. It reviews the pedagogical and andragogical theories of learning to determine their applicability to Army training. The thesis operationalizes the characteristics of training in order to describe them in observable terms so that Army trainers can easily include their associated characteristics as part of individual training sessions during basic combat training.

This thesis concludes that the appropriate training methodology for basic combat training includes a blend of pedagogical and andragogical learning theories and that Army trainers could achieve a higher quality training product with some knowledge and consideration of how people learn.

689. Interest in Indian Ocean and its Influence on Development of East African Countries, by Major Geoffrey B. Luruti, Kenya Army, 138 pages.

Since the oil crisis of the 1970s and the subsequent global recession external powers have become increasingly interested with the Indian Ocean and the surrounding states. The United States, the Soviet Union, Western European countries, Japan and China have all shown varying degrees of interest. The East African states of Kenya, Tanzania, Somalia, and Ethiopia have been affected by such interests.

This study discusses three main questions:

1. What external powers are interested in the Indian Ocean and the surrounding region and why?
2. What influence does such interest have on future development of the East African states of Kenya, Tanzania, Somalia, and Ethiopia?
3. What are the major policy issues with which these East African states must currently deal with and what is the best way of handling such issues?

Research concerning the first two questions established that there have been interested external powers, whose influence is depicted by the varying development levels of the four East African states examined in this study. The study concluded that there are pressing and difficult policy questions that these countries must try to answer and identify what future role external powers should play.

690. The Unknown Generals - German Corps Commanders in World War II: A Leadership Analysis of German Army Corps Commanders, by Major French L. MacLean, USA, 169 pages.

This study is a historical analysis of the background and demonstrated leadership attributes of 332 World War II German corps commanders on the Eastern, Italian, and Western Fronts. Overall characteristics are determined based on each officer's experience and performance based on available historical records. These records focus on age, nobility, background, education, branch, previous command and staff positions, membership in the



General Staff, demonstrated military achievement, promotion, and subsequent higher command.

Among the many conclusions which could be drawn from this investigation are: most successful corps commanders possessed an excellent educational background, performed well in previous significant command and staff positions, and demonstrated the capability for independent action; and, political factors played a minor role in the selection of officers for corps command.

The study concludes that the Eastern, Western, and Italian Fronts all had competent German corps commanders conducting operations; no front had a preponderance of successful commander's to the detriment of the other two.

691. Anti-Communist Vigilantes in the Philippines, Lieutenant Colonel Marcelino Q. Majajacan, Jr., Philippine Army, 100 pages.

This study examined the conditions which brought about the organization and growth of anti-communist vigilantes, and their impact on the counterinsurgency effort and society in the Philippines. The analysis aimed at determining a suitable role for anti-communist vigilantes in a comprehensive counterinsurgency program and their future role in a post-insurgency Philippine society. Moreover, the research was also directed at defining the role of government or any of its agencies in the anti-communist vigilante movements in the Philippines. This study used the historical method to collect, analyze, and integrate evidence. This was reinforced by a survey administered to all Armed Forces of the Philippines officers and enlisted personnel training in the Continental U.S. service schools.

The study concluded that the specter of CPP/NPA political violence, the resulting economic strain of "progressive taxes" exacted on the masses and business, and the inspiring motivation of the 1986 "People Power Revolution" are the conditions that bred courage to the people to spontaneously reject and openly confront, "vigilante style," the communist movement.

The study also found that the Philippine government, particularly President Corazon C. Aquino, should provide the lead in harnessing the ground swell against communism. President Aquino's enormous popularity is the single unifying element, which can equal if not better the charisma and success of the late President Magasaysay in fighting the HUKs in the 50's.

Finally, the study finds that the politico-psychological impacts, void of an ideology, of vigilantism to a nation menaced by a violence prone insurgent movement more than outweighs the portent of anarchy that may result from the existence of popular militia, un-regulated by government.

692. Grant's 1864 Campaign in Virginia, by Major Timothy C. McNeil, USA, 154 pages.

This study is an historical analysis of General Ulysses S. Grant's 1864 Campaign in Virginia. It begins with Grant's appointment as Lieutenant General and General in Chief of all the Union armies on 9 March 1864, and concludes with the defeat of the flanking movement against the Weldon Railroad below Petersburg on 22 June 1864. Grant's strategy and preparations for the spring campaign, and the subsequent operations of the Army of the Potomac are described and analyzed.

Among the conclusions which can be drawn from this study was that despite the extraordinarily difficult military and geographical challenges of conducting large scale offensive operations in Tidewater Virginia during the Civil War, Grant came close to achieving a decisive strategic victory that could have ended the war in the summer of 1864. He failed to establish a

fully effective system of command relationships. He assigned Richmond rather than Petersburg as the objective for Butler's Army of the James. He accepted battle in the Wilderness under circumstances unfavorable to his army. He sent Sheridan's entire Cavalry Corps on a deep raid and away from the critical fighting at Spotsylvania. He failed to exploit the potential of Hancock's initial flanking movement at Spotsylvania. He pulled the XVIII Corps away from the Army of the James at a critical time to throw it against Confederate entrenchments at Cold Harbor. He launched pointless assaults at Cold Harbor without benefit of proper reconnaissance or coordination, wasting thousands of lives. He failed to take Petersburg after crossing the James River at a time when it was virtually defenseless. And he initially lacked a full understanding of the defensive strength of entrenched soldiers armed with the rifled musket, and of the proper role of cavalry. The faulty system of command relationships established by Grant was a critical factor that caused or compounded many of these errors. While Grant did not achieve a decisive strategic victory, his accomplishments at the operational level did lack the Confederacy into a position that virtually ensured its ultimate defeat, and the restoration of the Union.

693. Service Members Individual Retirement Account (SMIRA): An Alternative Retirement System, by Major Robert D. Merkl, USA, 69 pages.

This study is a quantitative analysis of the force composition effects of changes in the military retirement system. The recent decrease in the value of retirement benefits will lower the service's retention rates. This will lead to higher accession requirements and will result in a younger, less experienced and less educated force. As the military moves towards a more complex and technically sophisticated weapons base, the new force structure raises serious questions for national security.

The study suggests and evaluates a lump sum payment alternative that relies on the individual's discount rate being higher than the government's discount rate. The study concludes that SMIRA is an alternative retirement system that reduces the Federal outlays in the steady state while preserving the real value of military retirement. SMIRA features a fixed government contribution level equal to 42% of a soldier's base pay, thus creating an estate that can generate substantial investment opportunities. SMIRA has the potential to generate \$3.6 billion in savings annually without unfavorable force composition effects.

694. The Role of the Military in Africa's Future Politics, by Major Carl S. Modey, Ghana Army, 91 pages.

The 1960's and 70's saw an upsurge of military coup d'etats in Africa. Only a few countries have never experienced either a successful or attempted coup. Currently, however, there is a gradual decline in the frequency of coups. This study examined whether this decline is an indication of a new era, and if so whether there will be an end to coup d'etats by the year 2000. A comparative study of the political, social, and economic aspects of an industrialized society and an African society was done with a view to identifying the conditions necessary for peace and stability.

Finally, the military being the key player in any peace move was examined for possible roles that will ensure lasting peace and development. The findings show that although the frequency of coups will decrease; they will continue into the next century. A possible solution is for some arms and services of the military to be employed or integrated into the overall development plans of the country without compromising security. At the same time, steps should be taken to create appropriate political, social, and economic structures necessary to guarantee peace and stability.

695. Information Flow Analysis of the Marine Air Command and Control System, by Major Joseph E. Noble, USMC, 146 pages.

This analysis is based on a model of the Marine Air Command and Control System identified in the Center for Naval Analysis study C3 Information Flow Model. The study was the composite result of a working conference of subject matter experts required to identify the operators, information, and communication paths used by the Marine Air Command and Control System. The model was reduced to a numeric data base from which an analysis of the model's performance as an information exchange system could be evaluated. The timeliness, accuracy, and efficiency of the information flow was then examined based on the numeric reduction of the model.

Among the many conclusions which could be drawn from the analysis are: the model could exchange limited volumes of information in a timely, accurate, and efficient manner, as the volume of information requirements goes up in high intensity air operations, the system as identified in the model will most likely fail to provide timely, or accurate, or efficient information flow; the absence of a formalized architecture for the Marine Air Command and Control System has allowed the system to evolve in a piece-meal fashion resulting in the suspicion supported by the analysis that the system is flawed to perform as required in high intensity operations.

The analysis concludes that the requirement and architecture for the Marine Air Command and Control System needs formalization. Development of a required operational capability and a concept of employment should proceed while study of the system continues to formalize the architecture required for the Marine Air Command and Control System.

696. A Conscript Military Force as a Credible Defense System for a Small Nation: The Case of Singapore and Taiwan, by Major Daniel Ong Boon Hwee, 151 pages.

The conscript system is currently used by a large number of countries, including the majority of small nations. This study examines the appropriateness and effectiveness of a conscript military force as a credible defense system for small countries.

This study analyzes the factors which caused Singapore and Taiwan to have a conscript military force and the effectiveness of those conscript systems. The factors include geography, threat assessment, defense policy, historical circumstances, population/society, and economic considerations. The analysis of the effectiveness of the conscript system covers four military criteria and four non-military criteria which relate to the operational readiness of the armed forces and the contribution of the military system to internal national objectives.

The study shows that given the inherent factors and constraints, the conscript system is suitable in providing Singapore and Taiwan with the type of military force required for their defense needs. The conscript system has been effective in contributing to the military efficiency of the armed forces as well as in supporting other non-military national internal objectives.

The study provides insights into the rationale for a small country's adoption of a conscript system and the effectiveness of the system. It also provides a conceptual framework that will facilitate analysis of the choice and effectiveness of a conscript system.

697. Military Justice and the Conduct of Operations - Can The Current System of Military Justice be Administered Effectively in Future Mid-to-High Intensity Conflict, by Major Edward B. Pusey, USA, 102 pages

This study compares the system of military justice that existed during World War II with the present system. As a basis for comparison a framework is established which looks at three different aspects of the military justice system. The first examines the main characteristics of the military justice system. The second looks at the "due process" rights of a military offender. The third and last addresses the organization and capabilities of past and present Staff Judge Advocate Sections at division level and below. The overarching context in which this comparison is made is the tempo of operations and the combat environment as it existed during the European Campaign, and under the conditions for future mid-to-high intensity conflict as outlined in the Army's warfighting doctrine, FM 100-5, Operations.

AirLand Battle Doctrine envisions the future mid-to-high intensity battlefield as chaotic, intense, and highly destructive. To successfully support commanders in their efforts to maintain law, order and discipline, the requirements for the administration of the military justice system must be flexible enough to meet the challenges resulting from the tempo of operations and the combat environment. This system should also be able to function without undermining the "due process" rights of soldiers.

Research reveals that the "due process" rights of soldiers have been significantly enhanced since World War II. The addition of these rights has added to the complexity of the administration of the military justice system. There is no evidence that the anticipated tempo of future operations and combat environment were taken into consideration when changes occurred to the military justice system. This study concludes that the current system of military justice will not affect commander's ability to conduct operations but, combat operations could affect significantly the administration of the military justice system.

698. The Infantry Division (Light) Firepower and Mobility in the Desert: How Effective?, by Major William R. Puttmann, Jr., 168 pages. I N

This study examines the utility of the U.S. Army's Infantry Division (Light) in a Middle East mid- to high-intensity conflict. The research hypothesis of the study is that the Infantry Division (Light) does not possess sufficient firepower or mobility and should not be employed in the desert unless significantly augmented.

Two historical examples were cited in this study. The first battle for TOBRUK 12-16 April 1941, in which a light infantry force performed a static defense in depth in a desert environment and was successful. The second historical example cited was an offensive action, the battle for Mt. Hermon 21-23 October 1973, in which light infantry forces defeated a well-prepared defense. Both historical examples illustrate the shortcomings in firepower and mobility of the current U.S. Infantry Division (Light) when it is compared to past light infantry forces that have conducted combat operations in the desert.

This study concludes with the development of a fictional scenario in the Middle Eastern nation of Oman. The crisis developed results in the employment of an infantry division (light) which is subsequently attacked by a Soviet Airborne Regiment. The battlefield performance of the light division focuses on the antitank and tactical mobility of the division. The light division is ultimately successful but a great expense to the organization in terms of personnel and equipment. The study recommends increases in current antitank weapon systems in addition to the fielding of more effective medium range systems.

699. The Role of Veterinary Medical Civic Action in the Low-Intensity Conflict, by Major Dan R. Ragland, USA, 122 pages.

This study examines the use of veterinary medical civic action as a means to achieve internal defense and development objectives in the low-intensity conflict environment. It considers veterinary programs as an alternative available to Third World countries in areas where agriculture and livestock production are major social and economic considerations.

A comparative analysis of veterinary civic action projects in Vietnam and more recently in Latin America is conducted. Lessons learned are compared to determine the effectiveness of veterinary programs from animal health and human health improvement standpoints, as well as from a host nation stability standpoint. Additionally, a survey of veterinary professionals provides contemporary views on the employment of U.S. Army veterinary assets in Foreign Internal Defense programs.

Among the many conclusions that can be drawn from this investigation are: many of the mistakes made in Vietnam are being made today in Latin America, such as assignment of U.S. military personnel without training in civil affairs concepts, language, or host nation orientation; emphasis on training host nation personnel is secondary to training of U.S. personnel; projects are isolated, short-term in nature, and are not integrated into an internal development strategy involving the host nation government as the primary actor.

700. A Career Pilot Option for the Tactical Air Forces, by Major Frederick C. Richardson, 116 pages. *USAF*

The USAF is faced with the difficult problem of training, maintaining, and retaining the experienced fighter pilot. This study explores the feasibility of a specialized "career pilot" option for the Tactical Air Forces in terms of increasing combat capabilities. This proposed specialist track allows fighter pilots to continue to fly for an entire career rather than cycle in and out of the cockpit under the current system. The study analyzes the career pilot specialist and compares the effects on retention, experience levels, training and cost to the current system used by the Air Force.

This study demonstrates the cause and effect relationships between experience levels, retention, training costs, and their impact on combat readiness. Retaining experienced fighter pilots is the major key to maintaining and improving combat readiness in the TAF. Though better retention the TAF is able to retain more experienced pilots in the operational units. With more experience, the replacement and retraining costs are reduced. This, in turn, allows defense dollars to be used elsewhere.

This study concludes that the career-pilot program would have a positive effect on retention and would increase the combat capabilities of the United States Tactical Air Force.

701. Does the Army Need to Better Define Missions in Terms of Resources to More Effectively Manage in a Resource-Constrained Environment?, by Major Thomas E. Roberts, 116 pages. *FX*

This thesis asserts the Army does not define missions in terms of resources consumed, in sufficient detail to assist decision-making. This is primarily the result of the current budget structure which restricts resource classification to broad functional categories. These broad categories have little or no meaning at the lower echelons of the Army where tough resource decisions are usually made. Reaching decisions, without relevant information being presented in an understandable and usable format, almost ensures suboptimal results. Unless the Army can better discipline the resource management process, it runs the risk of compromising the modernization and readiness gains made possible by the liberal appropriation of the Reagan era.

The thesis investigates the rational and traditional schools of budgeting in order to examine how the practice of budgeting evolved and some of the realities of the budget process. The study gains valuable insight by comparing the two schools and attempting to determine which school has the greatest application for today's Army. A useful by-product of this examination and comparison is that it tends to explain how the Army's present resource management philosophy and supporting systems developed. The results of the examination and comparison then lay the foundation for a resource information model which defines missions in sufficient detail to facilitate resource decision-making. Lastly, the thesis proposes a procedural framework at the installation level on how the model might be employed to improve resource decision-making.

The study concludes with some pre-conditions which must be met in order for the model to be implemented and used successfully. These pre-conditions describe the mind-set which senior leaders must have to ensure the full power of the model is brought to bear on the problem of resource allocation.

702. Research and Development of the U.S. Marine Corps' Advanced Assault Amphibious Vehicle, by Major Blake J. Robertson, USA, 97 pages.

This study compared the U.S. Marine Corps' AAV program plan against a standard government acquisition program. The study provides the reader with a detailed description of what normally takes place during each phase of a standard government acquisition program, compares each of the AAV program plan to the standard phases, and highlights the differences.

Among the many conclusions that are drawn from this study are: that the AAV program plan needs to be reworked, that the program should start when funding is available, that the program's milestones need to be reestablished on a more realistic time schedule, that the extensive program concurrence should be reduced, and that the program plan should be staffed to industry for comment.

The study concludes that the AAV program plan is not executable in its present form.

703. Agility: The Cornerstone of Tactical and Operational Success in AirLand Battle, by Major John D. Rosenberger, USA, 82 pages.

This is a comparative analysis aimed at determining whether or not the U.S. Army's heavy corps and armor/mechanized infantry divisions actually possess the superior agility necessary to transform the doctrinal tenet of AirLand Battle into a battlefield capability, and use it as a means of defeating a much larger Soviet opponent.

Among the many conclusions which could be drawn from this research are: agility has meaning only in a relative sense--relative to one's opponent, in this case a Soviet opponent; equivalent agility provides no advantage, superior agility must be achieved; the ability of a unit can be measured; a U.S. heavy corps and its major subordinate combat unit, the armor or mechanized infantry division, are not as agile as their Soviet counterparts; and the ability to apply agility as a mechanism for defeating a Soviet attack absolutely depends on the acquisition of near-perfect, real-time information about enemy and terrain conditions, a capability which the U.S. Army cannot claim.

The study concludes there is a serious incongruity between the tenet of agility expressed in AirLand Battle doctrine and the current capability of the U.S. Army's ground maneuver units to apply it. To make matters worse, agility has yet to become a principal criterion in the development of U.S. Army individual and collective performance-oriented training, force design, and



materiel. Fundamental deficiencies are highlighted, then followed with recommendations which could eliminate or alleviate their effects..

704. The Cut of the Scythe, by Major Florian K. Rothbrust, USA, 172 pages.

This narrative recounts the operational history of XIXth Panzer Corps' advance from 10 to 15 May 1940. Its primary focus is directed at the breakthrough at Sedan. The political and military situations influencing the decision makers of the German Army General Staff and the development of the campaign plan are analyzed in an attempt to provide an understanding for the rationale of the mission, deployment, and employment of XIXth Panzer Corps and its subordinate units. A discussion of Field Marshal Erich von Manstein's recommendations and operational concept clarifies his instrumental role in the development of the final campaign plan. Traffic control, Special Operations Forces, and innovative Aerial Resupply concepts are investigated for their fusion into the AirLand Battle concept of this mobile warfare operation. This narrative furnishes a complete account of the daily operations of XIXth Panzer Corps' leaders, men, and equipment. It provides a unique observation of the corps' staff in its daily evaluation of the operational situation, intelligence reports, the logistic situation, and an endless friction with the next higher headquarters. Lastly, this narrative demonstrates the effectiveness of a well trained, equipped armored corps, commanded by leaders who are fully cognizant of their mission, the commanders aim, and the overall operational concept.

This thesis concludes that the remarkable German victories of 1939-1940, and especially XIXth Panzer Corps' advance through the Ardennes, were only possible because of a tremendously dedicated officer corp[s] at the helm of the Army General Staff and in every key position within the field army. These officers were the product of a fierce competitive atmosphere, enabling only the cream of the crop to survive, and thus producing a military culture feeding on "efficiency mania."

705. The United States International Maritime Industry: Sustaining the Force in War, by Major Bradley E. Smith, 153 pages.

The goal of this thesis is to explain the numerous, complex reasons for the deterioration of the US international maritime industry. The impact upon our national defense is also examined in detail.

Those forces contributing to its decline are analyzed--federal regulatory processes, domestic political considerations and forces at work in the international marketplace. It becomes evident why American shipping companies operate at a competitive disadvantage to their foreign counterparts.

The importance of the US merchant marine to our defense efforts is underscored, particularly in light of a Soviet maritime buildup. Anticipated shortfalls in strategic sealift resources are examined for both a one theater war and global conflict. Also considered are potential problems of crew availability and the adequacy of the National Defense Reserve Fleet, Ready Reserve Force and Effective US Control Fleet.

Because no long-term plan for eradicating the root causes of our merchant marine troubles have been adopted by the nation, it is likely the US international maritime industry will continue to flounder in the future.

706. Lessons Learned from 20th Century Tank Warfare: Does a Common Thread of Lessons Exist?, by Major Matthew L. Smith, 112 pages. *MR*

This study is a historical analysis of lessons learned from major tank warfighting experiences of the 20th century concerning individual tank and small tank unit (company size or smaller) mobility, firepower, protection,

command and control, and overall design. The aim of this study was to make a determination about the existence or nonexistence of a common threat of lessons learned during individual tank and small unit fighting. The major tank warfighting experiences examined were World War I, World War II, and the Arab-Israel 1967 and 1973 Wars. The lessons learned were gleaned from sources written by soldiers, engineers, and historians who had either participated in or studied the particular tank warfighting experience. Lessons learned are grouped into five areas: mobility, firepower, protection, command and control, and overall design.

This study concludes that a common thread of lessons learned concerning individual tank and small unit mobility, firepower, protection, command and control, and overall design does exist throughout the major tank warfighting experience of the 20th century.

707. American and Soviet Security Assistance in Sub-Saharan Africa: An Effectiveness Appraisal, by Major Michael L. Smith, USA, 168 pages.

Using enhancement of global and regional objectives, procurement of military base rights, and benefits to the recipient state as effectiveness criteria, this study concludes that the security assistance program of the Soviet Union has been more effective in sub-saharan Africa than its American counterpart. After comparing the general character of American and Soviet security assistance efforts throughout the world, this analysis then identifies the global aspirations of each superpower. These findings provide the foundation for applying the effectiveness criteria. The state of sub-saharan Africa are then grouped into three regions. The ensuing region by region examination yields conclusive regional assessments, as well as the overall effectiveness appraisal for American and Soviet security assistance programs in sub-saharan Africa noted above.

708. The Evolutionary Development of the Full-Time Support Programs in the Army Reserve - 1920-1987, by Captain Gene V. Stangle, 85 pages.

This study is a historical analysis of the three full-time support programs of the United States Army Reserve; Active Army Advisor, Civilian Technician, and the Active/Guard Reserve program.

Each program is examined in detail based on available historical documents. The following questions were answered: (1) when and why the full-time support (FTS) programs started, (2) what events took place that caused them to change, (3) who was responsible for their development.

Some conclusions drawn from this investigation include: (1) the readiness posture of the Army Reserve is directly linked to the number of FTS personnel it employs; (2) the civilian technician union threatens the command and control of the Army Reserve; (3) personnel force reductions in the Active Army negatively impacts on the Army Advisor program; (4) the AGR program provides versatility, military management and command and control to the senior commander.

709. Integration of Aerial Combat Maneuvering Instrumentation Equipment into the USAF Air Weapons Director Entry Level Training Program, by Major Charles M. Whitehurst, USAF, 90 pages.

This study analyzes the need for and feasibility of integrating ACMI Equipment into the USAF AWD Entry Level Training Program. A history of the development of the ACMI training concept is presented followed by an analysis of the recommendations of the 1982 Fourth Air Weapons Controller Symposium, the 1982 Tactical Air Command 17XX Training Conference, and the 1983 Air Weapons Controller Master Training Planning Conference.



A discussion of Aerial Combat Tactics training, performed by the AWD Entry Level Training Program, and the need to upgrade this portion of the course is presented. The ACMI training program is introduced as an alternative or supplement to the existing program. The capabilities and limitations of the Tyndall AFB ACMI Range in support of this training are discussed, followed by the need and potential of both the AWD Entry Level Training Program and the Tyndall AFB ACMI Range to accept the integration.

The study concludes that ACMI equipment should be integrated into the AWD entry Level Training Program. The results of the research reveal that the integration is needed and it is feasible from the standpoint of both the AWD Entry Level Training Program and the Tyndall AFB ACMI Range.

CLASSIFIED THESES  
1987-1988

C-50. What is the Recommended Role for Intelligence and Electronic Warfare with Respect to Directed Energy Weapons?, by Major James M. Adams, USA, 97 pages.

The recent developments and emerging technology of directed energy weapons (DEW) are propelling the U.S. Army into a new realm of sophisticated warfare. Directed energy weapons are both offensive and defensive in nature. They will destroy electronic as well as living targets. Intelligence and Electronic Warfare will conceivably expand its traditional nonlethal role into one which is extremely deadly. To what extent the Army will use directed energy weapons on future battlefield is, of course, unknown. However, once they are employed, the face of AirLand Battle will surely change.

This study examines current IEW doctrine, responsibilities, and capabilities on the AirLand Battlefield. Also, Threat reconnaissance, radioelectronic combat, "reverse intelligence preparation of the battlefield," and the potential integration of DEW into the tactical battle provide the background for a future combat scenario. U.S. Army IEW is shown in transition from 1988 into the early 21st Century.

This study concludes that U.S. Army command, control, communications, and intelligence (C<sup>3</sup>I) systems and capabilities will be extremely susceptible and vulnerable to directed energy warfare...to the point of tactical preemption. If directed energy warfare is formally placed with intelligence and electronic warfare, then Military Intelligence should lead the way in developing the means of DEW detection and destruction of potential Threat systems.

This study recommends educating the U.S. Congress about DEW, hardening and shielding C<sup>3</sup>I systems, and providing essential funding for research and development at established DEW testing facilities and centers.

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